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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/507,526	02/18/2000	Stephane H. Maes	Y0999-178 (8728-306)	7963

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EXAMINER	
HO, ANDY	
ART UNIT	PAPER NUMBER
2194	

DATE MAILED: 05/31/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/507,526	MAES, STEPHANE H.	
	Examiner	Art Unit	
	Andy Ho	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *07 March 2005* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-37* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-37* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *3/7/2005* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

DETAILED ACTION

1. This action is in response to the amendment filed 3/7/2005.

2. Claims 1-37 have been examined and are pending in the application.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-15 and 19-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto U.S Patent No. 6,119,147.

As to claim 1, Hashimoto teaches a system comprising:

a program storage device (a computer, line 38 column 3) that stores a multi-modal application (combination of SRS 1 and application programs 2, Fig. 6), the multi-modal application comprising at least a first and a second mode process (inputs and outputs from the application programs, lines 23-25 column 41; speech synthesis unit operated as an independent process, lines 37-38 column 42) that enables user interaction with the application in a first modality and second modality (the system allows the user to interact with the system via text data or speech data, lines 50-63 column 49; Figs. 17, 66, and 69-72);

a program execution system (speech recognition interface system, lines 11-12 column 10) that executes the multi-modal application and synchronizes the first and second mode processes while a user interacts with the multi-modal application (lines 12-37 column 10) wherein the program execution system comprises:

a multi-modal shell (11, Fig. 56) that manages information exchanges between the processes (controls by exchanging the messages transmitted from the speech unit to the application program, lines 38-41 column 10) to enable a synchronized multi modal interaction with the application (the system allows the user to interact with the system via text data or speech data, lines 50-63 column 49; Figs. 17, 66, and 69-72) wherein user interaction in one modality results in execution of corresponding commands in both the first and second mode processes (lines 38-63 column 49);

the processes register their respective active commands and corresponding actions (register the recognition vocabularies and the appropriate actions that response to these vocabularies, line 48 column 10 to line 10 column 11) with the multi model shell (11, Fig. 56).

Hashimoto does not explitcitly teach an API. However, Hashimoto teaches that each application program includes a message I/O unit (line 9-29 column 12) wherein all of the application program interactions with the speech recognition system are handled by this message I/O unit. Therefore one of ordinary skill in the art would conclude that this message I/O unit could be used as an API since it provides the interface for each application program to interact with the speech recognition system.

As to claim 2, Hashimoto as modified further teaches a registry having a registration table (program management table, line 58 column 10), managed by the multi-modal shell (11, Fig. 56), that comprises a list of each of the registered commands and corresponding synchronized actions (the recognition vocabularies and the appropriate actions that response to these vocabularies, line 48 column 10 to line 10 column 11) that results in both the first and second mode processes upon execution of a registered command (once the speech input "Finish" is transmitted, both of the application program can be finished by this single speech input, lines 5-8 column 27) by one of the first and second mode processes (inputs and outputs from the application programs, lines 23-25 column 41).

As to claim 3, Hashimoto as modified further teaches the multi-modal application comprises a first mono-mode application (speech synthesis unit, line 37 column 42) for the first mode process and a second mono-mode application (application program, lines 41-42 column 42) for the second mode process, wherein the multi-modal shell (11, Fig. 56) manages and synchronizes information exchanges (message exchanges using the process communication, lines 39-40 column 42) between the first (speech synthesis unit, line 37 column 42) and second mono-mode applications (application program, lines 41-42 column 42).

As to claim 4, Hashimoto as modified does not teach devices having user interface modalities. However, Hashimoto teaches (lines 51-55 column 12) the message system can be implemented as a server and clients system wherein the speech recognition unit can act as a server and the applications programs are clients.

Therefore one of ordinary skill in the art would conclude that the clients are the devices with modalities wherein these devices can register their commands and corresponding actions with the server.

As to claim 5, Hashimoto as modified further teaches the devices multi-modal shell are distributed over a network (server and client system, lines 51-55 column 12), and wherein the API is implemented using distributed APIs or protocols (byte stream type protocol, lines 54-55 column 12).

As to claim 6, Hashimoto as modified further teaches a mechanism for converting a mono-mode application to a multi modal application (application program 5 is interact with both speech input and keyboard input, Fig. 17).

As to claim 7, Hashimoto as modified further teaches the mono-mode application is a GUI application (user interface of Fig. 18), the mechanism (11, Fig. 56) provides speech enablement (controls by exchanging the messages transmitted from the speech unit to the application program, lines 38-41 column 10) of the GUI application (user interface of Fig. 18) by registering the active commands of the GUI application and building a grammar for the registered commands to support the commands in a speech modality (register the recognition vocabularies and the appropriate actions that response to these vocabularies, line 48 column 10 to line 10 column 11).

As to claim 8, Hashimoto as modified further teaches a mechanism for building a multi-modal application (application program 5 is interact with both speech input and keyboard input, Fig. 17).

As to claim 9, Hashimoto as modified further teaches the mechanism (11, Fig. 56) is used for directly programming the registry by building a registration table (program management table, line 58 column 10) having user-defined commands and corresponding actions (the recognition vocabularies and the appropriate actions that response to these vocabularies, line 48 column 10 to line 10 column 11) for each of the modalities of the multi-modal application (1A, Fig. 56).

As to claim 10, Hashimoto as modified further teaches that the system is implemented on personal computers, workstations...(lines 8-12 column 1). Hashimoto does not explicitly disclose an operating system. "Official Notice" is taken that both the concept and advantage of providing for an operating system is well known and expected in the art. It would have been obvious to include an operating system into the system of Hashimoto because it would provide the execution space for the system.

As to claim 11, Hashimoto as modified further teaches the system is distributed over a network (server and client system, lines 51-55 column 12).

As to claim 12, Hashimoto as modified further teaches the multi-modal application (1A, Fig. 56) is a multi-modal browser (a mail browser, Fig. 27), comprising first and second browser applications (multiple application programs 2, Fig. 7).

As to claim 13, Hashimoto as modified further teaches the first browser is GUI (interface of Fig. 27) and the second browser is speech (the user can command to open the mail by saying "yes", lines 54-60 column 25).

As to claim 14, Hashimoto as modified further teaches the multi-modal shell (11, Fig. 56) processes the multi-modal application (recognition result, line 16 column 25) to

send modality specific presentation information (speech result from the speech recognition system, lines 14-17 column 25) to the respective browsers (a mail browser, Fig. 27).

As to claim 15, Hashimoto as modified further teaches the multi-modal application is authored using a modality-independent description and wherein the multi-modal shell generates (recognition result, line 16 column 25) the modality-specific presentation information (speech result from the speech recognition system, lines 14-17 column 25) from the modality-independent description (input speech, line 12 column 25).

As to claim 19, Hashimoto teaches a method comprising:

activating a multi-modal application (combination of SRS 1 and application programs 2, Fig. 6) comprising at least a first mode process (inputs and outputs from the application programs, lines 23-25 column 41; speech synthesis unit operated as an independent process, lines 37-38 column 42) that enables user interaction with the application in a first modality (the system allows the user to interact with the system via text data or speech data, lines 50-63 column 49; Figs. 17, 66, and 69-72) and a second mode process (inputs and outputs from the application programs, lines 23-25 column 41; speech synthesis unit operated as an independent process, lines 37-38 column 42) that enables user interaction with the application in a second modality (the system allows the user to interact with the system via text data or speech data, lines 50-63 column 49; Figs. 17, 66, and 69-72);

receiving a command (speech input, line 14 column 41) in a first modality (speech recognition interface system, line 13 column 41);

triggering an action (speech output, line 19 column 41) in the first mode process based on the received command (speech recognition interface system, line 13 column 41) and triggering a corresponding action (the mail is opened when the user saying "yes", lines 54-60 column 25) by the second mode process (application program, lines 41-42 column 42);

updating application state associated with the second mode process (update the program management data in the program management according to an internal state of each application program, lines 35-39 column 76).

Hashimoto does not explitcitly teach updating application state associated with the first mode process. However, Hashimoto teaches (lines 37-46 column 14) the speech recognition system also has its own internal state; and when there is a change in this internal state, the application program will get a message notifies about this change. Therefore one of ordinary skill in the art would conclude that in a certain time, the internal state of the speech recognition system is updated; therefore produces the state change.

As to claim 20, Hashimoto as modified further teaches registering active commands associated with the first and second mode processes (the recognition vocabularies and the appropriate actions that response to these vocabularies, line 48 column 10 to line 10 column 11); associating, with each registered command of the mode processes, an action on one mode process and a corresponding action on the

other mode process (once the speech input "Finish" is transmitted, both of the application program can be finished by this single speech input, lines 5-8 column 27).

As to claim 21, Hashimoto as modified further teaches building a command to action registration table (program management table, line 58 column 10) based on the registered commands and actions (the recognition vocabularies and the appropriate actions that response to these vocabularies, line 48 column 10 to line 10 column 11).

As to claim 22, Hashimoto as modified further teaches the registration table (program management table, line 58 column 10) is built by a multi-modal shell (11, Fig. 56). Hashimoto does not explitcitly teach an API. However, Hashimoto teaches that each application program includes a message I/O unit (line 9-29 column 12) wherein all of the application program interactions with the speech recognition system are handled by this message I/O unit. Therefore one of ordinary skill in the art would conclude that this message I/O unit could be used as an API since it provides the interface for each application program to interact with the speech recognition system.

As to claim 23, Hashimoto as modified further teaches looking up the received command (the recognition vocabulary lists, lines 59-60 column 10) in the registration table (program management table, line 58 column 10); and executing the actions associated with the received command on the first and second mode processes (once the speech input "Finish" is transmitted, both of the application program can be finished by this single speech input, lines 5-8 column 27).

As to claim 24, Hashimoto as modified further teaches registering a callback handle for each of the registered commands to notify the first and second mode

processes of completion of the actions corresponding to the registered commands (after the dictionary production is completed, notifies this act to the data acquisition unit 8 by a message indicating the completion of the dictionary production, lines 3-5 column 33).

As to claim 25, Hashimoto as modified further teaches executing the callback handle associated with the received command to trigger callback actions on the mode processes (after the dictionary production is completed, notifies this act to the data acquisition unit 8 by a message indicating the completion of the dictionary production, lines 3-5 column 33).

As to claim 26, Hashimoto as modified further teaches executing first thread associated with the received command ("Finish", line 6 column 27); triggering a corresponding second thread to initiate the corresponding action on the second mode process (once the speech input "Finish" is transmitted, both of the application program can be finished by this single speech input, lines 5-8 column 27).

As to claim 27, Hashimoto as modified further teaches the threads are applets ("Yes" and "No" icons in Fig. 27).

As to claim 28, Hashimoto as modified further teaches the threads communicate via socket connections (server and client system (lines 51-55 column 12) with a mail browser, Fig. 27)).

As to claims 29-37, they are device claims of claims 19-21 and 23-28, respectively. Therefore, they are rejected for the same reasons as claims 19-21 and 23-28 above.

4. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimoto in view of Toomey U.S Patent No. 6,119,147.

As to claim 16, Hashimoto as modified does not explitcitly teach the multi-modal application comprises a combination of declarative markup languages. Toomey teaches a multi-model document with a combination of declarative markup languages (text discussion, audio commands, graphics, and documents, lines 60-61 column 1). It would have been obvious to apply the teachings of Toomey to the system of Hashimoto because this document will provide the user with the convenience of interacting with the system using the choice of texts or speech commands.

As to claim 17, Toomey further discloses combining the declarative markup languages and synchronization elements to provide tight synchronization (interactions are inserted into the multi-modal document at a point that is chronological in the meeting to create a synchronous meeting, lines 11-13 column 15).

As to claim 18, Toomey further discloses separate files for each of the declarative markup languages (multiple tracks in the multi-modal document, lines 59-60 column 1).

Response to Arguments

5. Applicant's arguments filed 3/7/2005 have been fully considered but they are not persuasive.

Applicant argued that Hashimoto reference does not teach a multi-modal application (Remarks, fourth paragraph page 9). In response, as disclosed in the claims

rejection above, Hashimoto teaches the system allows the user to interact with the application via text data or speech data (lines 50-63 column 49; Figs. 17, 66, and 69-72). The SRS 1 (Fig. 6) acts as an interface of the application wherein this interface transfers user's inputs into recognizable results before sending them to the application (lines 12-37 column 10). Therefore, the SRS and the application together made up a multi-modal application. The reference meets the limitation as claimed.

Applicant argued that Hashimoto reference does not teach executing the commands for the application (Remarks, first, second and third complete paragraphs page 10). In response, as clearly disclosed in the claim rejection above, Hashimoto teaches triggering an action (speech output, line 19 column 41) in the first mode process based on the received command (speech recognition interface system, line 13 column 41) and triggering a corresponding action (the mail is opened when the user saying "yes", lines 54-60 column 25) by the second mode process (application program, lines 41-42 column 42). The reference meets the limitation as claimed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andy Ho whose telephone number is (571) 272-3762. A voice mail service is also available for this number. The examiner can normally be reached on Monday – Friday, 8:30 am – 5:00 pm.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Any response to this action should be mailed to:

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A.H
May 25, 2005

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